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EXAMINER

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Paper No. 28

Application Number: 09/424,811  
Filing Date: November 30, 1999  
Appellant(s): GILCHRIST ET AL.

\_\_\_\_\_  
Charles Quinn  
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 06 December 2002.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

**(4) *Status of Amendments After Final***

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The appellant's statement of the issues in the brief is substantially correct. The rejection under 35 USC 112, first paragraph rejection is no longer maintained - based on Appellants arguments that the maintaining step is inherent in glass manufacturing processes.

**(7) Grouping of Claims**

The rejections of claims 1-8 and 10-15 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

Pages 6-7 of the Brief merely point out the differences in what the claims cover. See 37 CFR 1.192(c)(7): "Merely pointing out differences in what the claims cover is not an argument as to why the claims are separately patentable." Pages 13-15 of the Brief also repeat the individual differences and then simply state that the prior art does not teach those differences. The arguments completely overlook the rationale, bases and evidence used in the rejection. There is no specificity as to why the prior art does not teach the differences - thus the claims stand or fall together. *In re Nielson*, 816 F.2d 1567, 1572, 2 USPQ2d 1525, 1528 ( Fed. Cir. 1987).

**(8) Claims Appealed**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) Prior Art of Record**

5,470,585

GILCHRIST

11-1995

Tooley, F.V. "Handbook of Glass Manufacture" (1954) Ogden Publishing, pages 242-243, 252-256, 282-285, 373-374.

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Loewenstein, K.L. "The Manufacturing technology of Continuous Glass Fibers" (1991)  
Elsevier, pages 32, 33, 102, 103.

**(10) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8, 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilchrist in view of Loewenstein and Tooley.

Gilchrist discloses the invention of glass fibers which dissolve to release silver ions. See claims 1 and 3, and col. 7, line 66 of Gilchrist. The Appellant does not dispute this. Gilchrist does not disclose specifics as to how to make the glass material which is woven; col. 4, lines 42-45 discloses to use "conventional methods".

The secondary references are cited to show that was well known to create glass products by heating raw materials to very high temperatures, followed by cooling the glass down before any forming of the glass (into the final product). The prior art teaches that high temperatures are used because of the advantage that the

homogenization and reduction of stones occur much faster at higher temperatures. - this is mostly because glass is much more fluid at higher temperatures, but also because higher temperatures and better kinetics usually go hand-in-hand. But glass that is too fluid to form/work must be cooled to an appropriate viscosity for forming. See especially Loewenstein, page 32, lines and figure IV/29 and page 103; and Tooley, page 243, col. 1, lines 25-31, page 254, fig IX B, 23, p256, second full paragraph, and page 283, figure IX D.1.

It would have been obvious to use a Gilchrist fiber making process (col 4, lines 42-45) by first heating the starting materials to a high temperature (so as to form the molten glass as quickly as possible) and then cool it to a temperature appropriate for forming the fibers. The motivation from the prior art: the higher the temperature, the faster the glass is homogenized, which means the more glass which can be made in a day's time.

The maintaining step is inherent. Examiner adopts the rationale of Appellant put forth on page 5, second paragraph of the Appeal Brief. Most specifically: "in the practice of a process the 'working temperature' is the temperature at which the process is practiced and hence that "maintaining" the working temperature is implicit and inherent in the practice of the process."

Present claim 2 requires that the glass is cooled slowly to the working temperature. The term "slowly" is a relative term. One could arbitrarily define what is fast cooling and what is slow. It would have been obvious to cool the glass a rate

slower than that achieved by pouring molten glass into liquid nitrogen, because it takes much effort and expense to cause glass to cool that slowly. As per fiber IX D1 of Tooley, it is noted that glass cools at different rates in glass furnaces. The present specification gives no indication as to what may or may not constitute slow cooling. It would have been obvious to cool the glass at a rate sufficiently low to create useable fibers.

Claims 3-4 are directed to the temperatures of the process. Examiner could find no indication of any new and unexpected results for either of these limitations. The secondary references discuss the importance of temperature in the processing of glass and glass fibers. It would have been an obvious matter of routine experimentation to determine the optimal temperature for the claimed temperatures. Gilchrist uses the same type of glass as is presently disclosed - thus one would expect that fibers are best drawn at the same temperatures.

As to claim 5, see Gilchrist col. 3, lines 45-46; claim 6, lines 63-65, claims 7-8, lines 60-62. Claim 10: see claim 7 of Gilchrist.

Claims 11-15 limitations are obvious as per the reasons given above.

**(11) Response to Argument**

35 USC 103 rejection

It is argued that conventional methods resulted in short brittle fibers when using the Gilchrist compositions. First, the claims do not preclude the fibers from being short

and/or brittle. Second, no evidence is given which supports the allegation that Gilchrist does not work as claimed. Addressing the first point: Gilchrist claim 3 discusses woven material - this implies the fibers are long enough to be woven.

As to the second point: Gilchrist states that conventional methods can be used to make and use the invention; Appellant holds one cannot make and use the Gilchrist invention using conventional methods. The legal standards for demonstrating an invention is not enabled are set forth in MPEP 2164.01. It is clear that Brief does not contain such the requisite analysis for the Office to agree that an invention is not enabled. The Office presumes all US patents are valid.

As to the argument that the correct temperature of making the fibers cannot be found by routine experimentation. This is a conclusion with no evidence to support it. It seems that Applicant is arguing that one of ordinary skill would need some special knowledge to create the Gilchrist fibers. Again, the Office is not in a position to agree with the argument that one of ordinary skill cannot make or use the Gilchrist fibers - without strong evidence and reasoning to support it. One of ordinary skill realizes that since there is a different glass composition, it is likely that it will have a different melting point, working temperature, etc. and thus common routine experimentation would be necessary to find out how to best use the conventional methodology.

As to the arguments pertaining to possibility of crystallization of the glass. Again, since Gilchrist states that mere conventional techniques can be used to create glass fibers, Appellants conclusions to the contrary are insufficient to overcome the presumption that the Gilchrist patent is valid.



It is further argued that conventional processes for making insoluble glasses are not successful when making soluble glasses. This is a conclusion with no evidence. A conventional E-glass process will only result in E-glass - because the process must start out with E-glass raw materials. But one of ordinary skill would NEVER interpret the teaching at col. 4, lines 42-45 of Gilchrist so narrowly. The statement that 'a glass is a glass is a glass' was not intended to mean that all glasses would have identical forming temperatures, melting points, physical properties, etc. Rather, the processing techniques and principles of glass are rather universal. One who involved in the material sciences uses terms such as glass, metal, woods, plastic, and rubber to describe things that are very similar in nature - and generally can be processed, created, and transformed using similar techniques and principles that are well understood. This is because their molecular and/or microscopic structures similar enough to have similar properties. Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation *In re Swain et al.*, 33 CCPA (Patents) 1250, 156 F.2d 239, 70 USPQ 412; *Minnesota Mining and Mfg. Co. v. Coe*, 69 App. DC. 217, 99 F.2d 986, 38 USPQ 213.

It is still further argued that the it is problematic to draw the present compositions into fibers. In addition to the lack of evidence to support this, it is noted that having problems only means that more effort is needed to make and use the invention. Most importantly, the claims are not limited to drawing glass. In fact Applicant's claim 5 is

directed to glass wool - which is typically created without drawing. See page2, lines 19-33 of Appellant's specification which indicates "glass wool" is not a drawn fiber.

It is further argued that the rejection is based on using the Tooley or Loewenstein method of making fibers. This is not accurate. The secondary references only addresses how to create the molten glass that one would use in Gilchrist's method. Claim 1 is directed mostly to the the processing of the glass prior to forming fibers. The secondary references merely point out superior ways of creating molten glass. Tooley is evidence of what is known to those in the glass manufacturing art. In fact, even common sense is sufficient to support the conclusion of obviousness - secondary references aren't even needed. Knowledge generally available to one of ordinary skill in the art is sufficient for establishing a prima facie showing of obviousness. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). It is common knowledge that most things dissolve more quickly and more completely at higher temperatures. For example sugar dissolves more quickly in hot tea than in iced tea. Tooley points out that the same principles in glass manufacturing technology. It is unfathomable to Examiner that one of ordinary skill could believe that heating a phosphorus pentoxide glass to a higher temperature would not result in quicker melting/dissolving of the starting materials. It would have been obvious to create the Gilchrist glass by heating the starting materials to a very high temperature for the advantages known in the art - as stated in the rejection.

It is argued that Loewenstein is concerned with completely different types of fibers and would not be of interest to one involved with the Gilchrist invention. Again, the secondary references are used to show what one of ordinary skill in the fiber making art already knows. Someone who is going to make Gilchrist woven glass material (claim 3) would need to know how to create continuous glass fibers. Loewenstein is relevant.

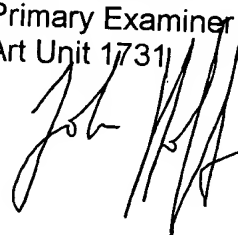
It is further argued that the prior art does not disclose maintaining the glass at the working temperature. This is not important because it is inherent. As argued on page 5, second paragraph of the Appeal Brief "in the practice of a process the ' working temperature' is the temperature at which the process is practiced and hence that "maintaining" the working temperature is implicit and inherent in the practice of the process."

As to the dependent claims - the Appeal Brief only gainsays that the prior art teaches the limitations - but no rationale is given. The arguments fail to address the rationale and evidence put forth in the final rejection.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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Primary Examiner  
Art Unit 1731




2-24-03

John Hoffmann  
February 24, 2003

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